a means for generating a single filtered output signal;

wherein each building block includes a means for receiving a local main input signal, a means for receiving a local auxiliary input signal, and a processing means for calculating a complex adaptive weight, and generating a local output signal, utilizing the complex adaptive weight.

Please add the following new claims:

17. An adaptive signal processing system as in claim 16, wherein the complex adaptive weight w_{med} comprises: a sample median value of the real part of a ratio of a main input weight training data signal to an auxiliary input weight training data signal, and a sample median value of the imaginary part of the ratio of a main input weight training data signal to an auxiliary input weight training data signal.

18. An adaptive signal processing system as in claim 16, wherein the complex adaptive weight w_{med} comprises a sample median value of the real part of a ratio of a main input weight training data signal to an auxiliary input weight training data signal.

19 . An adaptive signal processing system as claimed in claim 16,

wherein each building block generates the complex adaptive weight, w_{med}, by solving the equation:

$$w_{med} = \underset{k=1\,to\,K}{MED}\left[real\left(\frac{z(k)^*}{x(k)^*}\right)\right] + j\left\{\underset{k=1\,to\,K}{MED}\left[imag\left(\frac{z(k)^*}{x(k)^*}\right)\right]\right\}$$

where K is the number of weight training data samples, z is the local main input signal, j is the unit imaginary vector, and x is the local auxiliary input signal; and

generates the local output signal, r, by solving the equation:

$r = z - w^*_{med}\, x$.

20. An adaptive signal processing system for receiving a plurality input signals corresponding to a common target signal and for sequentially decorrelating the input signals to cancel the correlated noise components therefrom, the adaptive signal processing system comprising:

a plurality of building blocks arranged in a cascaded configuration having N input channels and N-1 rows of building blocks, for sequentially decorrelating each of the input signals from each other of the input signals to thereby yield a single filtered output signal;

wherein each row of building blocks has a first end building block which is fed originally by a main input channel and a last end building block opposite said first end building block,

wherein each building block includes:

a local main input channel which receives a local main input signal,

a local auxiliary input channel which receives a local auxiliary input signal, and

a processing mechanism that calculates a complex adaptive weight and generates a local output signal, utilizing the complex adaptive weight;

wherein said last end building block supplies the local output signal to a separate local output channel for follow on processing.

21. An adaptive signal processing system as in claim 20, wherein the Nth input channel is supplied for follow on processing.

22. An adaptive signal processing system as in claim 20, wherein said complex adaptive weight comprises: a sample median value of the real part of a ratio of a main input weight training data signal to an auxiliary input weight training data signal, and a sample median value of the imaginary part of the ratio of a main input weight training data signal to an auxiliary input weight training data signal.

23. An adaptive signal processing system as in claim 20, wherein said complex adaptive weight comprises a sample median value of the real part of a ratio of a main input weight training

data signal to an auxiliary input weight training data signal.

24. An adaptive signal processing system as in claim 20, wherein said complex adaptive weight w_{med} is generated by solving the equation:

$$w_{med} = \underset{k=1\,to\,K}{MED}\left[real\left(\frac{z(k)^*}{x(k)^*}\right)\right] + j\left\{\underset{k=1\,to\,K}{MED}\left[imag\left(\frac{z(k)^*}{x(k)^*}\right)\right]\right\},$$

where K is the number of weight training data samples, z is the local main input signal, j is the unit imaginary vector, and x is the local auxiliary input signal; and the local output signal r is generated by solving the equation:

$$r = z - w^*_{med}\, x.$$

REMARKS

Claims 1-24 remain in this application. Claim 16 has been amended. Claims 17-24 have been added. Support for the amendment to claim 16 is in the specification at p. 13, lines 1-8 and in Figure 6. Support for the added claims is as follows: claims 17 and 22- in the specification at p. 8, lines 3-6 and at p. 12, line 19-p. 13, line 1; claims 18 and 23: in the specification at p. 8, lines 3-6, at p. 12, line 19-p. 13, line 1, and at p. 14, lines 16-17; claims 19 and 24: in the specification at p. 12, line 16-p. 14, line 15; claim 20: in the specification at pp. 8-24 and in the Figures; claim 21: in the specification at p. 23, line 9-p. 24, line 11.

Attached hereto is a marked-up version showing the changes made to claim 16 and reiterating the new claims. The attached page is captioned **"Version with markings to show changes made and new claims added."**